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Gregory Smith

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EXAMINER

KIM, PAUL

ART UNIT

PAPER NUMBER

2161

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/619,165

Applicant(s)

SMITH, GREGORY

Examiner

Paul Kim

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-19 and 29-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-19 and 29-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


SAM RIMELL
PRIMARY EXAMINER

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office action is responsive to the following communication: Amendment filed on 18 August 2006.

Response to Amendment

2. Claims 1-19 and 29-37 are pending and present for examination.
3. Claims 2 and 20-28 have been cancelled.
4. Claims 1, 11 and 29-37 have been amended.
5. No claims have been amended.

Drawings

6. As per the objection to the Drawings, applicant's amendment has been acknowledged.
Accordingly, the objection has been withdrawn.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. **Claims 1, 3-8, 11-17 and 29-35** are rejected under 35 U.S.C. 102(e) as being anticipated by Kikuchi et al (U.S. Patent No. 6,457,007, hereinafter referred to as KIKUCHI), filed on August 5, 1994, and issued on September 24, 2002.
9. Regarding **independent claim 1**, KIKUCHI teaches:

A method of searching a plurality of content repositories, comprising:

providing for the representation of the plurality of content repositories as a virtual content repository (VCR) *{See KIKUCHI, col. 3, 34-37, wherein this reads over "a logical database in which at least one database among physical databases . . . is grouped beforehand"; and col. 8, line 66 – col. 9, line 8, wherein this reads over "a plurality of physical databases 1 are combined so as to form logical databases 4 (LBD_A, LBD_B)"}*;

searching the VCR for information that satisfies a search expression *{See KIKUCHI, col. 8, lines 37-40, wherein this reads over "an application program execution means 2 for executing the application program for updating or searching the databases"}*;

providing search results *{See KIKUCHI, col. 13, lines 20-26, wherein this reads over "a general-purpose interactive database application program . . . for indicating the search result often includes a function"}*;

wherein the VCR includes a common content model *{See KIKUCHI, Fig 1, Element 4; and col. 9, lines 1-8, wherein this reads over "[t]he logical database LBD_A consists of physical databases DB_a and DB_b The physical databases 1 in this embodiment store and manage a plurality of tables"}* and namespace *{See KIKUCHI, col. 14, lines 6-9, wherein this reads over "descriptor DATABASE means that the name described behind the descriptor DATABASE is a name of the physical databases 1 constituting the logical database to be defined"}*; and

wherein: each one of the plurality of content repositories implements a service provider interface (SPI) compatible with the VCR *{See KIKUCHI, Figure 1, Element 5; and col. 9, lines 21-48, wherein "the database interface unit 5" reads on "service provider interface" as best understood by the Office}*.

10. Regarding **dependent claims 3, 12 and 30**, KIKUCHI teaches:

The method of claim 1 (also a machine readable medium and a computer data signal comprising of a code segment) wherein searching the VCR includes: searching each of the plurality of content repositories *{See KIKUCHI, Figures 5, 20, and 22; and col. 8, lines 37-40, wherein this reads over "an application program execution means 2 for executing the application program for updating or searching the databases and instructs to update or search each database"}*.

11. Regarding **dependent claims 4, 13 and 31**, KIKUCHI teaches:

The method of claim 1 (also a machine readable medium and a computer data signal comprising of a code segment) wherein: the search expression can include at least one of: a logical expression, a Boolean operator, a nested expression, an object name, a function/method call, a mathematical function, a mathematical operator, a string operator, an image operator, and Structured Query Language (SQL) *{See KIKUCHI, col. 12, lines 26-27, wherein this reads over "an SQL statement is used as a database access statement"}*.

12. Regarding **dependent claims 5, 14 and 32**, KIKUCHI teaches:

The method of claim 1 (also a machine readable medium and a computer data signal comprising of a code segment) wherein providing search results includes:

combining the results of searching each one of the plurality of content repositories {See KIKUCHI, Figure 35; and column 49, lines 47-61, wherein this reads over "the table location searching unit 7 in this Embodiment 1 combines the processing results"}.

13. Regarding **dependent claims 6, 15 and 33**, KIKUCHI teaches:

The method of claim 1 (also a machine readable medium and a computer data signal comprising of a code segment) wherein providing search results includes:

 caching the search results {See KIKUCHI, Figure 35; and col. 49, lines 30-35, wherein this reads over "the table location searching unit 7 in this Embodiment 11 stores the informed processing result in the SELECT statement result storage area"}.

14. Regarding **dependent claims 7, 16 and 34**, KIKUCHI teaches:

The method of claim 1 wherein providing for the representation of the plurality of content repositories as a VCR includes:

 extending the content model to include information in the plurality of content repositories {See KIKUCHI, Fig 1, Element 4; and col. 9, lines 1-8, wherein this reads over "[t]he logical database LDB_A consists of physical databases DB_a and DB_b The physical databases 1 in this embodiment store and manage a plurality of tables"}; and

 wherein the namespace spans the plurality of content repositories {See KIKUCHI, col. 14, lines 6-9, wherein this reads over "descriptor DATABASE means that the name described behind the descriptor DATABASE is a name of the physical databases 1 constituting the logical database to be defined"}.

15. Regarding **dependent claims 8, 17 and 35**, KIKUCHI teaches:

The method of claim 7 wherein: the content model provides a uniform representation of content for the plurality of content repositories {See KIKUCHI, Fig 1, Element 4; and col. 9, lines 1-8, wherein this reads over "[t]he logical database LDB_A consists of physical databases DB_a and DB_b The physical databases 1 in this embodiment store and manage a plurality of tables"}.

16. Regarding **independent claims 11 and 29**, KIKUCHI teaches:

A method (also a machine readable medium and a computer data signal comprising of a code segment) of searching a plurality of content repositories, comprising:

 providing for the representation of the plurality of content repositories as a virtual content repository (VCR) {See KIKUCHI, col. 3, 34-37, wherein this reads over "a logical database in which at least one database among physical databases . . . is grouped beforehand"; and col. 8, line 66 – col. 9, line 8, wherein this reads over "a plurality of physical databases 1 are combined so as to form logical databases 4 (LDB_A, LDB_B)};

 searching the VCR for information that satisfies a search expression {See KIKUCHI, col. 8, lines 37-40, wherein this reads over "an application program execution means 2 for executing the application program for updating or searching the databases"};

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providing search results {See KIKUCHI, col. 13, lines 20-26, wherein this reads over "a general-purpose interactive database application program . . . for indicating the search result often includes a function"}; and

wherein each one of the plurality of content repositories implements a service provider interface (SPI) compatible with the VCR {See KIKUCHI, Figure 1, Element 5; and col. 9, lines 21-48, wherein "the database interface unit 5" reads on "service provider interface" as best understood by the Office}.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. **Claims 9-10, 18-19 and 36-37** are rejected under 35 U.S.C. 103(a) as being unpatentable over KIKUCHI, in view of Weinreb et al (U.S. Patent No. 5,426,747, hereinafter referred to as WEINREB), filed on March 22, 1991, and issued on June 20, 1995.

KIKUCHI teaches the limitations of claims 1-8, 11-17, 20-26, and 29-35 for the reasons stated above.

KIK UCHI differs from the claimed invention in that KIKUCHI fails to teach a method (also a machine readable medium and a computer data signal comprising of a code segment) wherein the VCR includes a set of content information and a set of schema information (claims 9, 18, 27, and 36).

KIKUCHI differs from the claimed invention in that KIKUCHI fails to teach a method (also a machine readable medium and a computer data signal comprising of a code segment) wherein searching the VCT for information includes searching the set of content information and the set of schema information (claims 10, 19, 28, and 37).

19. Regarding **dependent claims 9, 18 and 36**, KIKUCHI, in combination with WEINREB, discloses a method (also a machine readable medium and a computer data signal comprising of a code segment)

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wherein the VCR includes a set of content information *{See WEINREB, col. 4, lines 32-36, wherein this reads over "both the data segment and corresponding information segment"}* and a set of schema information *{See WEINREB, col. 4, lines 24-36, wherein this reads over "[e]ach database has a 'schema' associated therewith, the schema containing an entry for each object type present in the database"}*.

The combination of inventions disclosed in KIKUCHI and WEINREB would disclose an invention which comprised of a VCR which included a set of content information and a set of schema information such that the VCR may be searched for information that satisfied a search expression. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above invention suggested by KIKUCHI by combining it with the invention disclosed by WEINREB.

One of ordinary skill in the art would have been motivated to do this modification so that the set of content information and the set of schema information may be used and applied accordingly in the search of the plurality of content repositories.

20. Regarding **dependent claims 10, 19 and 37**, KIKUCHI, in combination with WEINREB, discloses a method (also a machine readable medium and a computer data signal comprising of a code segment) wherein searching the VCR for information includes searching the set of content information *{See WEINREB, col. 12, lines 30-34, wherein this reads over "the persistent relocation map 150 of the information segment 78 corresponding to the data segment 76 containing this page is searched for an entry corresponding to this address"}* and the set of schema information *{See WEINREB, col. 9, lines 44-47, wherein this reads over "the VMMDb can use the type code to search schema"}*.

The combination of inventions disclosed in KIKUCHI and WEINREB would disclose an invention which comprised of searching the set of content information and the set of schema information. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above invention suggested by KIKUCHI by combining it with the invention disclosed by WEINREB.

One of ordinary skill in the art would have been motivated to do this modification so that the set of content information and the set of schema information may be used in searching the virtual content

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repository, and effectively the plurality of content repositories, for information that satisfied the search expression.

Response to Arguments

21. Applicant's arguments filed 5 May 2006 have been fully considered but they are not persuasive.

a. Applicant's Arguments:

i. Claims 1, 11 and 29 under 35 U.S.C. 102(e)

As per claims 1, 11 and 29, Applicant asserts the argument that Kikuchi fails to disclose the amended claimed invention since Kikuchi discloses a system wherein "[t]he database interface unit 5 is outside of both the physical and logical databases" and the claimed invention discloses a system wherein "the SPI as claimed lies between the VCR and the content repositories and interfaces between them" (See Amendment, page 12).

ii. Claims 9, 18 and 36 under 35 U.S.C. 103(a)

As per claims 9, 18 and 36, Applicant asserts the argument that "the Examiner offers no motivation, suggestion, or teaching to combine the Kikuchi and Weinreb references" (See Amendment, page 12).

iii. Claims 10, 19 and 37 under 35 U.S.C. 103(a)

As per claims 10, 19 and 37, Applicant asserts the argument that "the Examiner's rejection is in the nature of a hindsight reconstruction of the invention" and that "there is no motivation or suggestion to combine" (See Amendment, page 12).

b. Response to Arguments:

i. Claims 1, 11 and 29 under 35 U.S.C. 102(e)

As per claims 1, 11 and 29 and Applicant's argument that Kikuchi fails to disclose a system wherein "the SPI as claimed lies between the VCR and the content repositories and interfaces between them," Applicant is directed to Figure 1 of Kikuchi and the related information found in the Specification of the prior art at column 9, lines 21-48. For

clarification purposes, the actual realization of the logical database occurs within the grouping of the Logical Database Access Controller, the Logical Database Defining Unit, and the Logical Database Dictionary. Therefore, where the aforementioned grouping communicates with the physical databases through the Database Interface Unit, Kikuchi would indeed disclose a method wherein the Database Interface Unit (i.e. the SPI) lies between the grouping (i.e. the VCR) and the physical database (i.e. the content repositories). The symbolic markings around the physical databases should be construed as mere indications as realization of the logical databases that occurs with the Distributed Database Access Management Unit.

Therefore, for the reasons stated above, the rejection of claims 1, 11 and 29 under 35 U.S.C. 102(e) is sustained.

ii. Claims 9, 18 and 36 under 35 U.S.C. 103(a)

As per claims 9, 18 and 36 and Applicant argument that "the Examiner offers no motivation, suggestion, or teaching to combine the Kikuchi and Weinreb references,"

Applicant is directed to page 9 of the Office Action dated 6 January 2006 which recites the following:

"One of ordinary skill in the art would have been motivated to do this modification so that the set of content information and the set of schema information may be used and applied accordingly in the search of the plurality of content repositories."

In light of the above motivation for combining the Kikuchi and Weinreb references, the Office has properly provided an obviousness rejection on its face. Therefore, for the reasons stated above, the rejection of claims 9, 18 and 36 under 35 U.S.C. 103(a) is sustained.

iii. Claims 10, 19 and 37 under 35 U.S.C. 103(a)

As per claims 10, 19 and 37 and Applicant asserts the argument that "the Examiner's rejection is in the nature of a hindsight reconstruction of the invention" and that "there is no motivation or suggestion to combine," Applicant is directed to the prior

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art of Weinreb which provides a method wherein virtual addresses may be mapped to actual physical addresses. Specifically, the disclosed prior art found in Weinreb would specifically relate to the core concepts of Applicant's claimed invention in that a central logical database or VCR is similarly mapped to actual physical databases. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was claimed to associate a schema with a database. The association of a schema with a database does not provide a hindsight reconstruction of the invention in that a schema would be inherent to an invention which groups a plurality of content repositories into a single virtual content repository since a schema provides "[a] description of a database to a database management system (DBMS) in the language provided by the DBMS" Microsoft Computer Dictionary, 5th Edition.

In light of the prior art disclose the obviousness, if not necessity, of including schema information within a database, such would illustrate that the combination of Kikuchi and Weinreb would not constitute a hindsight reconstruction of the invention. Therefore, for the reasons stated above, the rejection of claims 10, 19 and 37 under 35 U.S.C. 103(a) is sustained.

Conclusion

22. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing

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date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Kim whose telephone number is (571) 272-2737. The examiner can normally be reached on M-F, 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christian Chase can be reached on (571) 272-4190. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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